PART I - ADMINISTRATIVE

Section 1. General administrative information

Title of project

Fifteenmile Creek Habitat Restoration Project (Request Multi-Year Funding)

BPA project number: 9304000
Contract renewal date (mm/yyyy): 7/1999 ☐ **Multiple actions?**

Business name of agency, institution or organization requesting funding
Oregon Department of Fish and Wildlife

Business acronym (if appropriate) ODFW

Proposal contact person or principal investigator:

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City, ST Zip	The Dalles OR. 97058
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NPPC Program Measure Number(s) which this project addresses
7.1, 7.1D, 7.6, 7.6A, 7.6A.2, 7.6B.1, 7.6B.2, 7.6B.3, 7.6B.6, 7.7, 7.8, 7.10,1.10K and from Scientific Review 2, 21, 22, 28, 29

FWS/NMFS Biological Opinion Number(s) which this project addresses
There has not yet been a final decision regarding the petition to list Columbia River Steelhead. This project would help address "Biological Opinion" deterinations related to habitat and natural production of Winter Steelhead.

Other planning document references

Fifteenmile Creek Subbasin Plan (September 1990)

Fifteenmile Creek Implementation Plan (September 1987)
Oregon Department of Fish & Wildlife
USDA Forest Service
The Confederated Tribes of the Warm Springs Indian Reservation

Fifteenmile Creek Watershed Action Plan (July 1997)

CRITFC. 1996. WY-KAN-USH-MI-WA-KISH-WIT. The Columbia River Anadromous Fish Restoration Plan of the Nez Perce, Umatilla, Warm Springs, and Yakama Tribes. Portland, OR. Cited: volume II,

Fish Habitat Improvement Projects In The Fifteenmile Creek and Trout Creek Basins of Central Oregon: Field Review and Management Recommendations. (December, 1992)

Short description
Provide for continued operation and maintenance of all completed fish habitat treatment measures within the Fifteenmile basin. Provide continued education & demonstration of BMP to landowners throughout the basin.

Target species

Wild Winter Steelhead
Pacific Lamprey
Resident Rainbow Trout

Section 2. Sorting and evaluation

Subbasin
Lower Mid-Columbia
Fifteenmile Creek, Eightmile Creek, Ramsey Creek, Dry Creek.

Evaluation Process Sort

CBFWA caucus	Special evaluation process	ISRP project type
Mark one or more caucus	If your project fits either of these processes, mark one or both	Mark one or more categories
☒ Anadromous fish ☐ Resident fish ☐ Wildlife	☒ Multi-year (milestone-based evaluation) ☐ Watershed project evaluation	☐ Watershed councils/model watersheds ☐ Information dissemination ☒ Operation & maintenance ☐ New construction ☐ Research & monitoring ☐ Implementation & management ☐ Wildlife habitat acquisitions

Section 3. Relationships to other Bonneville projects

Umbrella / sub-proposal relationships. List umbrella project first.

Project #	Project title/description
20513	Hood River / Fifteenmile Creek Sub Basins
8805304	Hood River Production Program / ODFW M&E
9405400	Bull Trout Study of of Central and NE Oregon
8902900	Hood River Production Program / Round Butte Hatchery Production and Pelton
9500700	Pelton Ladder Hood River Production / PGE O&M
9301900	Hood River Production Program - Oak Springs, Powerdale, Parkdale / O&M
8805303	Hood River Production Program / CTWS M&E
9802100	Hood River Fish Habitat Project / Implement Habitat improvement actions
9304001	Fifteenmile Creek Wild Steelhead Smolt Production

Other dependent or critically-related projects

Project #	Project title/description	Nature of relationship
940200	Trout Creek Fish Habitat Restoration Project	Share equipment and some personnel
9304500	Buck Hollow Fish Habitat Restoration Project	Share office space, equipment and some personnel

Section 4. Objectives, tasks and schedules

Past accomplishments

Year	Accomplishment	Met biological objectives?
1998	To date, constructed approximately 100 - miles of riparian protection fence	Estabilished riparian protection on 35 % of available steelhead habitat in the basin to achieve bank stabilization, stream shading and fish habitat diversification goals outlined in the Fifteenmile Creek implementation Plan.
1998	To date, inspected & maintained 100 miles of riparian protection fence	Estabilished riparian protection on 35 % of available steelhead habitat in the basin to achieve bank stabilization, stream shading and fish habitat diversification goals

		outlined in the Fifteenmile Creek implementation Plan.
1998	To date, constructed and maintained approximately 1000 instream fish habitat structures	Diversified fish habitat on approximately 23% of available steelhead habitat within the basin. Working towards maintaining habitat complexity and fish habitat diversification goals outlined in the implementation plan.
1998	To date, eliminated 3 high maintenance water gaps by providing off- site water for livestock using solar pumping stations	Working towards elimination of high maintenance actions.
1998	To date, monitored stream temperatures at 10 locations throughout the basin from April through November	Monitoring to establish progress towards goal of lowering and maintaining summer water temperatures at 70 degrees F or less.
1998	To date, provided photographic documentation at 41 established photopoint location throughout the basin	Monitoring goal of maintaining a 70% canopy closure on treated an non-treated stream miles within the basin.
1998	To date, coordinated field activities with other organizations, agencies,and landowners to insure maximum technology transfer	Ensuring project coordination goals.
1998	Make, presentations related to the Fifteenmile Creek Habitat Restoration project	Achieving goal of information & technology transfer.
1998	To date, continued to pursue outside funding (non-BPA) and grants to expand the Fifteenmile Creek Habitat Restoration Project	Working towards the goal of augmenting BPA budget with other funds.

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	Perform ongoing operation and maintenance of completed habitat treatment measures	b	1.1a Inspect and evaluate riparian protection fences
		a	1.1b Repair & maintenance of riparian protection fence
		c	1.1c Elimination of high maintenance actions
		b	1.2a Inspect and evaluate bank

			stabilization & instream habitat structures
		a	1.2b Repair and maintenance of bank stabilization & instream structures
		c	1.2c Elimination of high maintenance actions
2	Monitoring Identify enviornmental factors limiting production of winter steelhead within the Fifteenmile Creek subbasin; Document recovery of riparian habitat	a	2.1 Monitor stream temperatures
		b	2.2 Provide photographic Documentation
3	Project coordination	b	3.1 Coordinate field activities with other agencies and landowners
		d	3.2 Make presentations related to the Fifteenmile Creek Habitat Restoration to agencies, schools and news media.
		a	3.3 Work with private landowners to promote land management activities beneficial to the protection of riparian areas and watersheds.
		c	3.4 Persue outside funding & grants to expand habitat restoration within project area.
		e	3.5 Provide quarterly project status reports to BPA
		f	3.6 Provide annual project status report to BPA
			.

4	Provide administrative oversite & secretarial suppout for program activities	a	4.1 Respond to BPA, CBFWA and NWPPC's request for meetings, information, and project data.
		b	4.2 Serve as chief liaison on issues that arise from BPA, CBFWA, Federal, and state agencies. Supervise program biologists.
		c	4.3 Provide secretarial support for program activities.

Objective schedules and costs

Obj #	Start date mm/yyyy	End date mm/yyyy	Measureable biological objective(s)	Milestone	FY2000 Cost %
1	7/2000	6/2001	Eliminated high intensity livestock grazing on, 35 % of avaliable habitat within the basin.Working towards bank stabilization, stream shading and fish habitat diversification goals outlined in the Fifteenmile Creek implementation Plan.		80.00%
2	7/2000	6/2001	Identify enviornmental factors limiting production of winter steelhead within the Fifteenmile Creek subbasin; Document recovery of completed habitat treatment measures, and monitor stream temperatures.		5.00%
3	7/2000	6/2001	Project coordination		10.00%
4	7/2000	6/2001	Administrative oversite		5.00%
				Total	100.00%

Schedule constraints

This project occurs on private lands, and work was authorized through the use of 15-year riparian leases with private landowners. Landowner acceptance and cooperation are necessary on private lands to allow for continued O& M of this project.

Completion date
2012

Section 5. Budget

FY99 project budget (BPA obligated): $220,000

FY2000 budget by line item

Item	Note	% of total	FY2000
Personnel	Personnel costs for O & M and monitoring	%38	94,316
Fringe benefits	Other Personnel Expenses	%15	36,896
Supplies, materials, non-expendable property	Office rent, vehicles, mileage, fencing supplies	%20	50,300
Operations & maintenance	The above items cover operation, maintenance & monitoring	%0	
Capital acquisitions or improvements (e.g. land, buildings, major equip.)	N/A	%0	
NEPA costs	N/A	%0	
Construction-related support	N/A	%0	
PIT tags	# of tags: N/A	%0	
Travel	Training & per diem	%0	1,053
Indirect costs	35.5 % personal services & sevice and supplies	%26	64,291
Subcontractor		%0	0
Other		%0	
TOTAL BPA FY2000 BUDGET REQUEST			$246,856

Cost sharing

Organization	Item or service provided	% total project cost (incl. BPA)	Amount ($)
Oregon Dept. of Fish & Wildlife	BPA Funded Fish Habitat Restoration Project (O &M)	%11	246,856
Oregon Dept. of Fish & wildlife	NMFS fish screening and passage	%15	320,000
Local Landowners	Cost share for implementing BMPs	%1	25,000
Local Landowners	Cost share for GWEB & 319	%1	25,000

	grant funds		
Local Landowners	Cost share erosion control	%0	3,750
USDA Forest Service	Watershed health improvements on forest land in headwaters	%5	100,000
USDA-NRCS	Implementing conservation measures on private land	%11	245,000
USDA-NRCS & FSA	Conservation Reserve Program, (retires cropland and seeds to permanent vegetation)	%31	675,000
USDA-NRCS & FSA	Hazard mitigation grant (implements measures to reduce erosion on private land)	%5	100,000
Wasco County (SWCD)	GWEB grant (improves watershed health)	%3	60,000
Wasco County (SWCD)	319 Grant (implements practices to improve water quality)	%2	40,000
Wasco County (SWCD)	Soil & Water Commission Grant (erosion control) Company Hollow	%1	15,000
Wasco County (SWCD)	Oregon Dept. of Agriculture Water Quality Grant	%0	4,000
Local Landowners	Cost share for implementing EQIP land conservation practices	%3	61,250
Fifteenmile Watershed Council	In-kind support	%0	5,000
		%0	
		Total project cost (including BPA portion)	$2,172,712

Outyear costs

	FY2001	**FY02**	**FY03**	**FY04**
Total budget	$254,621	$261,666	$269,071	$276,476

Section 6. References

Watershed?	**Reference**
☒	Oregon Department of Fish & Wildlife and Confederated Tribes of the Warm Springs Reservation of Oregon. September 1, 1990. Columbia Basin System Planning Salmon & Steelhead Production Plan. Funds provided by the

	Northwest Power Planning Council, and Ag
☒	Roger Smith, Dave Heller, Jim Newton, Harv Forsgren, Ron Boyce, Ken MacDonald. September 1987. Fifteenmile Basin Fish Improvement Implementation Plan. Funded by Bonneville Power Administration Project #86-79-01,1986.
☐	CRITFC. 1996. WY-KAN-USH-MI-WA-KISH-WIT. The Columbia River Anadromous Fish Restoration Plan of the Nez Perce, Umatilla, Warm Springs, and the Yakama Tribes. Portland, OR. Cited: volume II, pages 34 and 35.
☐	J. Boone Kauffman, Robert Beschta, Nick Otting, and Danna Lytgen. May 1997. An Ecological Perspective of Riparian and Stream Restoration in the Western United States.
☐	National Research Council. (U.S.) Committee on restoration of aquatic ecosystems-science, technology and public policy. 1992 Restoration of aquatic ecosystems. National Academy Press, Washington , DC. (As reported in Kauffman et al. 1997).
☐	Jackson, L. L., N. Lopoukhine, and D. Hillyard. 1995. Ecological Restoration: a definition and comments. Restor. Ecol. 3:71-75. (As reported in Kauffman et al. 1997).
☐	Kauffman J.B., and W.C. Krueger. 1984. Livestock impacts on riparian ecosystems and stream management implications: a review. J. Range Manage. 37:430-437.
☒	Kauffman, J.B., Beschuta, R.L,. Platts, W. S,.1992. Fish Habitat Improvement Projects In The Fifteenmile Creek and Trout Creek Basins Of Central Oregon: Field Review And Management Recommendations.
☐	
☐	

PART II - NARRATIVE

Section 7. Abstract

The Fifteenmile Creek Habitat Improvement Project is an ongoing fish habitat restoration **operation & maintenance** project. With funding requested for FY 2000 the project intent is to **maintain** all habitat treatment measures installed in the Fifteenmile Basin to date by project # 930400. This will be accomplished by continuing to maintain the 100 plus miles riparian protection fencing and the existing 1,000 fish habitat structures. This project will continue to address factors limiting production as long as it is given the needed funding to properly maintain it. Oregon Department of Fish and Wildlife will continue to provide technical assistance to local landowners and other agency personnel doing fish habitat restoration work in the Fifteenmile Creek Basin. We will attempt to

leverage BPA funding to acquire additional funding from other granting sources to accomplish additional habitat restoration projects within the Fifteenmile Creek Basin.

We request BPA funding for this operation and maintenance project for three years. This will allow us to manage the project in a more effective manner.

The goal of the implementation phase was to provide improved fish habitat, increased habitat diversity, increased stream shading, reduced water temperatures, reduced sedimentation, provide for unobstructed fish passage, and screen all irrigation withdrawals. The goal of the project is to improve natural production of the eastern most run of wild winter steelhead in the Columbia River Basin. This is being accomplished in the Fifteenmile Creek Basin, under the Columbia River basin Fish and Wildlife program, Measures 7.6, 7.6A.1, 7.6B.1, 7.6B.2, 7.6B.3, 7.6B.4, 7.6C. This project operates under the assumption that the Fifteenmile Basin will never again be pristine because of human alterations to the ecosystem but, can still be very productive in terms of fish production. This can only happen if we continue to address the factors limiting production basin wide.

Cooperators in the habitat enhancement project include 70 private landowners, USFS, WCSWCD, NRCS, NMFS, OWR, OWT, Confederated Tribes of The Warm Springs Reservation of Oregon, USFWS, and the Fifteenmile Creek Watershed Council.

Habitat improvements made under this project include:

- 100 miles riparian fencing constructed
- 45 miles of stream protected
- 1000 fish habitat structures constructed
- 6 spring developments constructed
- 100 pump screens installed
- 5 rotary drum screens installed
- 4 fish passage projects constructed

Stream temperature data and Photopoint documentation are being collected throughout the basin. In addition there was a FY 1998 and FY 1999 project proposal submitted to estimate Steelhead smolt production in the Fifteenmile Creek Basin (project # 934001.) Implementation of habitat treatment measures are expected to be completed in FY 1998. The operation and maintenance phase is expected to start in FY 1999 and continue through 2013.

Please see (section 7) in the Hood River / Fifteenmile Creek Basin (Umbrella Proposal) for additional details.

Section 8. Project description

a. Technical and/or scientific background

The Fifteenmile Creek Basin is located in north central Oregon and drains an area of approximately 238,720 acres. Fifteenmile Creek enters the Columbia River downstream of The Dalles Dam at river mile 192, and is a 5th order class 1 stream. Fifteenmile Creek flows include a high early spring runoff from melting snowpack in the higher elevations combined with spring rainstorms and followed by low summer flows. Average annual precipitation within the basin ranges from 10-45 inches. About 80 percent of the precipitation occurs from October to March. In the upper basin the flora is primarily dominated by fir and pine coniferous forests. The mid to lower elevations of the basin consist mainly of grasses, perennial forbes, oak and pine. Woody riparian species are dominated by alder, dogwood, willow and cottonwood (Smith et al, 1987). Timber management is the predominate multiple use activity influencing the characteristics of the Fifteenmile basin in the National Forest headwater areas. Private lands are managed almost entirely for agriculture purposes, including grain production, livestock grazing and the production of hay and fruit.

Development of lands for agricultural purposes has resulted in the following problems: reduction or removal of riparian vegetation, increased summertime water temperatures, increased sediment loading and has decreased the ability of the watershed to store and regulate runoff. The accelerated frequency and magnitude of runoff events due to agriculture development, has caused channel shifts which have interfered with agricultural practices. This has prompted landowners, with the help of the Soil Conservation Service and the Army Corps of Engineers, to channelize stream courses and remove instream structure. A recent expansion of agriculture has increased the demand for the limited water resource. As a result minimum flows for mainstem Fifteenmile Creek were adopted in 1985 by the Oregon Water Resources Department (Smith et al, 1987).

The entire Fifteenmile Creek basin is located within the ceded lands of The Confederated Tribes of the Warm Springs Reservation of Oregon. Fifteenmile Creek is not a stream running through the Warm Springs Reservation to which the tribe reserved exclusive fishing rights. It is a stream that tribal members and their forefathers fished. Thus Fifteenmile Creek is a stream that tribal treaty fishing rights are attached. This project will aid in the restoration of the traditional Native American steelhead and Pacific Lamprey fishery below Seufert falls on lower Fifteenmile Creek. Lamprey are an integral part of tribal cultures as they are harvested for ceremonial, subsistence, and medicinal purposes. This steelhead and lamprey fishery was voluntarily suspended in 1991 due to low escapement. (WY-KAN-USH-MI-WA-KISH-WIT 1996).

The goal of the Fifteenmile Creek Habitat Restoration Project is to increase the potential of the subbasin to maintain and increase the production of fishes endemic to the subbasin. A variety of benefits are projected to result from the implementation and the continued operation and maintenance of the Fifteenmile Creek Habitat Restoration Project. Increases in average annual production of winter steelhead smolts are estimated to range from approximately 22,000 to 52,305. This is an average increase of 130 to 280 percent above the basin's current smolt production. Average annual adult increases in

returns to the mouth of Fifteenmile Creek are estimated at 1500 to 3300, using the U.S. v. Oregon smolt to adult survival rate of 7.1 percent.

Increases in smolt production were determined from comparisons of pre and post treatment smolt abundance estimates. Pre-treatment smolt estimates are assumed to be equal to the current estimated smolt production capacity established for Fifteenmile Creek under U.S. v. Oregon. Post-treatment estimates assume full implementation of all projects and a ten year recovery period.

In addition to increased fisheries production there will be: improvements to water quality (reduced sediment loads and summer temperatures); improved bank stability (resulting from habitat treatment measures); significant increases in the quantity and quality of riparian habitat benefiting many species; and increased landowner ownership in the Fifteenmile Creek Project.

The objective of the Fifteenmile Creek Project is to provide for continued **Operation & maintenance** of all completed habitat treatment measures. The goal of the implementation phase of the Fifteenmile Creek Habitat Enhancement Project was to improve wild winter steelhead production in the Fifteenmile Creek Basin, under the Columbia River Basin Fish and Wildlife Program, Measures 7.6, 7.6A.1, 7.6.B, 7.6C, 7.7, and 7.7A.

The project is funded by and through the Bonneville Power Administration. Other funding sources and cooperators in the Fifteenmile Creek Basin include: the USDA Forest Service, Wasco County Soil and Water Conservation District, Confederated Tribes of Warm Springs Reservation of Oregon, U.S Fish & Wildlife Service, and 70 private landowners. Fifteenmile Creek Project will continue to provide technical assistance to local landowners and other agency personnel doing fish habitat restoration work in the Fifteenmile Creek Basin. We will attempt to leverage BPA funding to acquire additional funding from other granting sources to accomplish additional habitat restoration projects within the Fifteenmile Creek Basin.

The Fifteenmile Creek Basin supports the eastern most stock of naturally producing wild winter steelhead (Oncorhynchus mykiss) in the Columbia basin. The current steelhead population is believed to be depressed below historic levels. We believe steelhead production within the Fifteenmile basin is limited primarily by habitat deficiencies within the basin and secondarily by passage problems at Bonneville Dam on the mainstem Columbia River.

Fifteenmile Creek Basin was selected as a mitigation site for wild winter steelhead enhancement under the Northwest Power Planning Council's Columbia River Basin Fish and Wildlife Program Measure 7.6, 7.6A. A cooperative effort among Oregon Department of Fish and Wildlife (ODFW), U.S. Forest Service (USFS), Wasco County Soil and Water Conservation District (SWCD), and the Confederated Tribes of The Warm Springs has been undertaken to enhance winter steelhead habitat within the Fifteenmile watershed.

The Fifteenmile Creek Basin Fish Habitat Improvement Implementation Plan was generated to guide enhancement activities (Smith et al, 1987). The goal of the implementation plan is to restore historic escapement levels of wild winter steelhead in the Fifteenmile Creek Subbasin to mitigate in part for losses of fish production caused by the Federal Columbia River Hydro-Electric System. Phases I-III of the implementation plan were completed from 1986 - 1990. Phase IV began in 1991 and is expected to be completed in 1998. Phase V **Operation and Maintenance** will begin in 1999 and is expected to continue through 2012.

Current enhancement strategies include providing riparian protection fences and very limited instream structural treatment within the Fifteenmile Creek Basin. These measures will improve summer and over wintering habitat for juvenile winter steelhead. Water quality is being improved through riparian protection fencing and off site water developments. Riparian protection fences will promote revegetation, which will increase shading to decrease summertime high water temperatures, as well as increase allocthonous input into the stream. With funding from National Marine Fisheries Service (NMFS) rotary drum fish protection screens, as well as irrigation pump screens were installed at unscreened or improperly screened irrigation withdrawals. This will improve egg to smolt survival. Restoring riparian ecosystems is an important element in the rehabilitation of fish populations. Livestock grazing has been perhaps the most prevalent cause of ecological degradation for many western riparian and stream ecosystems (Kauffman and Krueger 1984, Kauffman 1988, Fleischner 1994). After extensive field reviews of fish habitat improvement projects in eastern Oregon Beschta et. al. (1991) and Kauffman et. al. (1993) concluded that the cessation of livestock grazing in riparian zones in eastern Oregon was the single most ecological effective approach to restoring salmonid habitats. Upland and agricultural treatment measures are currently being funded and implemented by the Wasco County Soil & Water Conservation District (SWCD) and the Natural Resource Conservation Service (NRCS).

Please see (section 8 a) in the Hood River / Fifteenmile Creek Basin (Umbrella Proposal) for additional details.

b. Rationale and significance to Regional Programs

"Restoration in riparian ecosystems is defined as reestablishment of predisturbance riparian function and related chemical, biological, and physical processes (National Research Council 1992). Restoration is the process of repairing damage caused by humans to the diversity and dynamics of indigenous ecosystems (Jackson et al. 1995). While ecological restoration attempts to return riparian zones as closely as possible to predisturbance functions and processes, scientists must recognize that ecosystems are in a constant state of flux due to ever changing environmental conditions. These changes, sometimes coupled with irreversible human impacts (e.g., soil loss, biotic invasions, air pollution), may preclude our capability to precisely re-create ecosystem structure and functions that previously existed. Thus, the goal of restoration projects is to ensure that

the dynamics of natural ecosystem processes are again operating efficiently so that both ecosystems structure and function can be recovered (National Research Council 1992, J. Boone Kauffman et al, 1997)".

Fifteenmile Creek currently supports the eastern most population of naturally-produced wild winter steelhead in the Columbia Basin. The current population is depressed below historic levels. Steelhead production within the Fifteenmile Basin is limited primarily by habitat deficiencies within the basin and secondarily by passage problems at Bonneville Dam on the mainstem Columbia River. The rational of the Fifteenmile Habitat restoration project is to increase production of winter steelhead within the Fifteenmile Creek Basin by minimizing or eliminating habitat deficiencies through habitat protection and enhancement measures. Controlling livestock grazing in riparian areas, stabilizing streambanks where necessary, and providing additional fish habitat diversity on private lands will aid in providing habitat necessary for the recovery of the winter steelhead. "*Streams and riparian zones are valuable ecosystems in terms of biological diversity, biogeochemical processes, and productivity. For humans, riparian and stream ecosystems are the focus of commodity, recreational, and aesthetic values. The preservation and maintenance of intact riparian ecosystems and the restoration of degraded ones are important to local, regional, and future generations (J. Boone Kauffman, et al.1997)".*

Riparian restoration is being accomplished in the Fifteenmile Creek Basin, under the Columbia River Basin Fish & Wildlife Program, **Measure 7.6 habitat goals, policies and objectives**. Wild and naturally spawning populations of steelhead are generally at low levels throughout the Columbia River Basin as a result of impaired mainstem passage, blocked habitat, habitat degradation, over fishing, predation, and other sources of mortality. Accordingly, the habitat is seeded at low levels. Therefore, improvements in habitat quality are needed to increase the productivity of many stocks. Improved habitat quality will allow greater juvenile and adult survival at each freshwater life stage and can result in more offspring surviving. These fish spend from one to three years of their life in freshwater as juveniles and several months as adults. It is during these freshwater stages that human activities have the greatest impact on the survival of the winter steelhead in the Fifteenmile Creek Basin.

Maintaining and improving the productivity of steelhead habitat within the Fifteenmile Creek Basin is an extremely complex task. It requires coordination of virtually all activities that occur in the subbasin.

Positive actions taken to maintain or to rehabilitate the Fifteenmile Creek Basin in the interest of rescuing and restoring steelhead and lamprey stocks will also result in long – term benefits to other basin resources dependent on watershed health. However, maintenance and recovery of winter steelhead will not be possible unless steps are taken to protect existing high quality habitat and to improve the quality of degraded habitat.

If the Fifteenmile Creek Project is not funded in FY 2000 there is a large risk that much of the vegetative riparian recovery that has been realized could be

compromised or lost. Livestock accessing any of the 50 plus miles of stream protected could negate years of vegetative riparian recovery in a few days or weeks. Juvenile steelhead, resident trout, and pacific lamprey could be lost in irrigation diversions or pump intakes when fish protection screens are not installed, maintained or monitored. Adult fish passage could also be compromised if fish passage structures are not regularly monitored and maintained. The value of approximately 1,000 instream fish habitat structures could be lost if there is no further maintenance. Habitat monitoring activities, including riparian photopoint documentation and water temperature monitoring would end.

The consequences of not funding the Fifteenmile Creek project in FY 2000 are unacceptable. Not funding this project would mean the loss of BPA's investment for the last twelve years. It would also mean the loss of significant habitat recovery, and the termination of 83 riparian leases (which include fifteen-year maintenance agreements) with private landowners. The Fifteenmile Creek steelhead population, which is proposed for listing as a threatened species under ESA, would be placed at added risk of extinction with termination of project funding. In addition, NWPPC, BPA and ODFW's credibility would be severely impacted by the termination of long term maintenance agreements that have been negotiated in good faith with private landowners.

Please see (section 8b) in the Hood River / Fifteenmile Creek Basin (Umbrella Proposal) for additional details.

c. Relationships to other projects

The Fifteenmile Creek Habitat Restoration Project shares office space, computers, equipment, tools, vehicles, and some personnel with the Buckhollow, Trout Creek, Hood River and the fish screening projects located in The Dalles and Madras, Oregon. The Fifteenmile Creek Habitat Restoration Project functions very similar to other fish restoration projects throughout the State (i.e. John Day, upper and lower Grande Ronde, Umatilla).

The Fifteenmile Creek Habitat Restoration Project works very closely with a multitude of other agencies and groups. Each agency or group listed below has a large stake in seeing that this project is a success because they have provided either money, technical assistance or both.

- 71 private landowners
- Wasco County Soil & Water Conservation District. (SWCD)
- Natural Resource Conservation Service (NRCS)
- USDA Forest Service
- Confederated Tribes of the Warm Springs Reservation of Oregon
- U.S Fish and Wildlife Service
- National Marine Fisheries
- Oregon Water Resources
- Oregon Water Trust

Please also see (section 8c) in the Hood River / Fifteenmile Creek Basin (Umbrella Proposal) for additional details)

d. Project history (for ongoing projects)

In the period between 1987 and present, BPA funded habitat improvement work in the Fifteenmile Creek Watershed as project 86-79-01. During that time, 100 miles of riparian fence, 1000 habitat structures, six spring developments, 96 fish screens, and 6 fish passage improvement projects were installed to improve winter steelhead habitat in an effort to increase natural production. In order to be able to install these improvements on private land, landowners signed 15-year leases where ODFW (with BPA funding), assumed maintenance of the improvements. This project provides for the operation and maintenance of these improvements. The last riparian lease was signed in 1997 and will expire in 2012.

This project has benefited wild winter steelhead as well as resident trout and pacific lamprey by providing increased habitat diversity, increased shade, improved passage, and cover. ODFW submitted a FY 1999 proposal to evaluate smolt production within the Fifteenmile Creek Basin. This project would serve to answer some of the critical questions about the number of smolts being produced within the Fifteenmile basin. Based on photopoint pictures the Fifteenmile Creek Habitat Restoration project has greatly increased instream habitat diversity, restored streamside vegetation and canopy, and reduced streambank erosion on 45.7 miles of stream. The project has also restored full passage by laddering and screening irrigation diversion structures and screening of irrigation pump intakes. Landowners have been educated on the importance of restoration of riparian areas.

Restoration work completed on Fifteenmile Creek has allowed this stream to begin to recover from decades of habitat degradation due to overgrazing, agriculture practices, logging, and road development. Without continued maintenance of these improvements, especially to riparian fencing, the riparian recovery that has occurred in past years will be lost. Whereas, if these improvements are fully maintained for the 15-year term of the landowner leases, this stream should be at almost full recovery.

The Fifteenmile Creek Habitat Restoration Project preserves management options within the Fifteenmile Creek basin for steelhead and resident species by improving critical habitat. This project will also allow for continued health of Fifteenmile Creek and its tributaries.

This project may also help keep the potential alive to restore the traditional Native American steelhead and lamprey fishery below Seufert falls on lower Fifteenmile Creek. The Native American steelhead and lamprey fisheries on Fifteenmile Creek were voluntarily suspended in 1991 due to low escapement.

Through project successes and failures we have gained considerable knowledge with regards to bank stabilization projects. As suggested in (Kauffman et. al.1992) we currently are taking a softer approach and incorporating more bio-engineering into each project. Bank stabilization and vegetation work has reduced the chronic problem of fill and removal violations associated with landowners temporary “fixes” to stream bank erosion following high water events.

Please also see (section 8d) in the Hood River / Fifteenmile Creek Basin (Umbrella Proposal) for additional details.

e. Proposal objectives

Restore and recover habitat lost as a consequence of man's activities in the Fifteenmile Creek Subbasin.

OBJECTIVE 1:

Operation & Maintenance

Perform ongoing operation and maintenance activities to insure the continued functioning of completed fish habitat improvements and to document the effectiveness of habitat treatment measures.

Task 1.1a: Inspect and evaluate riparian protection fences:

All fences, including livestock water gaps, will be visually inspected a minimum of one time per quarter throughout the contract period. During periods of heavy livestock exposure or inclement weather, fences may be inspected more frequently. An annual fence status inspection will be conducted in the spring to evaluate fence posts, wire, gates, hardware and components. This will be used to determine the need for a more comprehensive O & M project and future needs. Fence condition, livestock usage and intensity will also be documented.

Task 1.1b: Repair and maintenance:

Damage from livestock, wildlife, weather, and other sources will be assessed and repair needs will be estimated. Small repairs (open gates, broken wire, downed fence posts) will be repaired immediately. Repair actions estimated to take longer than four (4) hours would be planned and scheduled. Sufficient records will be kept to allow an annual assessment of the causal factors of damage. Major replacement of fence or sections of fence will be conducted only after an assessment of the costs and benefits of repair and alternative actions are complete..

Task 1.1c: Elimination of high maintenance actions:

Using information gained from task 1.1a, and 1.1b, Oregon Department of Fish and Wildlife will identify high-maintenance action items and attempt lower cost actions. For example, ODFW will eliminate 13 high-maintenance water gaps in FY 1998 by replacing them with solar pumping stations to provide off site water for livestock. These off site water locations will be paid for in approximately 3 years by eliminating the continued operation and maintenance of these high-maintenance water gaps.

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Task 1.2a: Inspect and evaluate bank stabilization & instream habitat structures:

All instream and bank stabilization structures will be inspected in the spring or after high water or ice events. Damage to or failure of structures will be assessed and documented. Each proposed repair will be evaluated in terms of fish, wildlife, and water quality benefits, lease agreement commitments, and repair costs.

Task 1.2b: Repair & Maintenance of bank stabilization & instream habitat structures:

Repairs will be made only after the utility and effectiveness of existing structure is made and the type and extent of repair can be made. ODFW will implement such repairs through contracts with third party contractors. ODFW will coordinate with landowners to locate access for repairs and develop repair schedules that do not adversely affect landowners operations. ODFW will obtain required local, State, and Federal permits for construction activities and instream operations. Priority for repair work shall be given to sites where failure of structures is or about to cause measurable damage to fish and wildlife habitat, riparian fencing, private land, or is obligated through ODFW's riparian lease agreement.

Task 1.2c: Elimination of high maintenance actions:

Using information gained from task 1.2a, Oregon Department of Fish and Wildlife will identify high maintenance action items and attempt to lower costs. ODFW will also explore alternative actions to high cost repairs not in violation of landowners riparian lease agreement.

Objective 2:

Monitoring:

Identify environmental factors limiting production of wild winter steelhead within the Fifteenmile Creek subbasin. Document recovery of riparian habitat within the Fifteenmile Creek Subbasin.

Task 2.1 Monitor stream temperatures:

Thermographs will be installed and operated for the period of April 1 through October 31 at 10 locations throughout the basin: five on Fifteenmile Creek, four on Eightmile Creek, and two on Ramsey Creek. Thermograph data and information will be collected and summarized and displayed in appropriate graphs and tables.

Task 2.2 Photographic Documentation:

Photographs will be taken at designated photo point locations throughout the basin to document changes in channel conditions and riparian recovery. Forty-one photo-point locations have been established throughout the basin. Photographs will be taken and cataloged once each year for the first three years of a new project and every other year thereafter. After we have reached the desired 70% canopy closer that photo point will then be taken every 5 years. Photographs will be taken in August under low flow, high growth conditions.

Objective 3:

Project coordination:

Task 3.1 Coordinate field activities with other agencies and organizations (i.e. USFS, BLM, SWCD, NRCS, ODF etc), to insure maximum technology transfer and coordination of habitat enhancement efforts.

Task 3.2 Make presentations related to the Fifteenmile Creek Habitat Restoration Project to other agencies, private landowners, schools, groups, and news media as opportunities arise.

Task 3.3 Work cooperatively with private landowners to promote management activities beneficial to protection and restoration of riparian areas and watersheds on private land.

Task 3.4 Continue to pursue outside program grants and funds to expand habitat restoration within project area.

Task 3.5 Quarterly Project Status Reports

Provide quarterly project status reports to BPA. Status report will list each objective and task as well as work accomplished and work to be accomplished. The quarterly status report will be no more than 2 pages long unless there is a need to describe something in more detail. Oregon Department of Fish & Wildlife will provide the quarterly status report to the COTR by e-mail in a timely manner.

Task 3.6 Provide annual project status report

The annual project status report will present copies of any data, information, or reports generated by the past years activities. The annual report will also provide a copy of expenditures incurred by each task or sub-task. The annual will provide any as built drawings or before and after photographs of each major action.

Objective 4:

Provide administrative oversight and secretarial support for program activities .

Task 4.1 Respond to BPA requests for meetings, information and project data as requested. Review program activities to insure compliance with BPA intergovernmental agreement and ODFW policies and standards. Review and edit all project reports prior to submission to BPA.

Task 4.2 Serve as chief liaison on issues that arise from BPA, CBFWA, Federal, and State agencies. Supervise activities of program biologists, assist and review annual work plans and conduct performance evaluations for program personnel. Review all contracts, statements of work, budgets, and construction contracts prior to submission.

Task 4.3 Provide secretarial support for program and project activities, answering telephones, typing reports, editing reports, assisting with budget tracking, preparing purchase documents, and filing.

Please also see (section 8e) in the Hood River / Fifteenmile Creek Basin (Umbrella Proposal) for additional details.

f. Methods

Restore and recover habitat lost as a consequence of man's activities in the Fifteenmile Creek Subbasin.

Objective # 1
Perform ongoing operation, maintenance, monitoring, and activities to insure continued functioning of completed fish habitat improvements, and to document the effectiveness of improvement measures.

All fences, including livestock water gaps, will be visually inspected at least once per month throughout the contract period. During periods of heavy livestock exposure or inclement weather, fences may be inspected more frequently. Fence condition and livestock usage and intensity will be documented. Damage from livestock, wildlife, weather, and other sources will be repaired as needed. Fence post, wire, gates, hardware, and other components will be inspected for normal wear and weathering. Components will be replaced or repaired as needed. All instream fish habitat structures will be inspected annually in the spring, following high water or ice events. Damage to, or failure of structures will be documented. Repairs will be made only when structures have failed, are about to fail, or will become ineffective if not maintained. ODFW will implement such repairs through contracts with private equipment operators. ODFW will coordinate with landowners to locate access for repairs, and to develop repair schedules that do not adversely affect landowner operations. ODFW will obtain required local, State, and Federal permits for construction activities and instream operations. Priority for repair work sill be given to sites where failure of structures is causing or about to cause damage to riparian fencing.

Objective #2

Monitoring

Identify environmental factors limiting production of wild winter steelhead within the Fifteenmile Creek subbasin. Document recovery of riparian habitat within the Fifteenmile Creek Subbasin.

ODFW will document temperature changes attributable to riparian and stream channel recovery. Thermographs will be installed and operated for the period April 1 - October 31 at ten locations: five on Fifteenmile Creek, four on Eightmile Creek and 1 on Ramsey Creek. Photographs will be taken at designated photo points to document stream channel condition and riparian recovery. Forty one photo points have been established at project sites throughout the subbasin. Photos will be taken in August under low flow conditions. In addition it is hoped that BPA will fund the FY 2000 proposal to monitor smolt production of steelhead within the Fifteenmile Basin. We believe that the information gained from this monitoring project will be invaluable to this project. We also believe that it will serve to answer further question regarding the effectiveness of fish habitat restoration work conducted throughout the region.

Objective #3

Project Coordination

The Oregon Department of Fish & Wildlife will continue to coordinate field activities with other agencies and organizations (i.e. USFS, BLM, SWCD, NRCS, ODF etc), to insure maximum technology transfer and coordination of habitat enhancement efforts. We will also continue to work cooperatively with private landowners to promote land management decisions beneficial to the protection and restoration of riparian areas and watersheds on private lands. In addition, ODFW will continue to seek other funds to expand habitat restoration efforts in the Fifteenmile Creek Basin. ODFW will also provide to BPA quarterly and annual project status reports.

Objective #4

Provide administrative oversight and secretarial support for program activities .

The Oregon department of Fish and Wildlife will respond to BPA requests for meetings, information and project data as requested. Review program activities to insure compliance with BPA intergovernmental agreement and ODFW policies and standards. Review and edit all project reports prior to submission to BPA. Supervise activities of program biologists, assist and review annual work plans and conduct performance evaluations for program personnel. Review all contracts, statements of work, budgets, and construction contracts prior to submission. ODFW will also continue to Provide secretarial support for program and project activities, answering telephones, typing reports, editing reports, assisting with budget tracking, preparing purchase documents, and filing.

Please also see (section 8f) in the Hood River / Fifteenmile Creek Basin (Umbrella Proposal) for additional details.

g. Facilities and equipment

The Fifteenmile Creek Project currently has the necessary personnel, office space, computers, vehicles, equipment, and tools to continue with the operation, maintenance and monitoring of this project. We do not foresee the need for any major purchases in the future. Following is a list of equipment and facilities that the Fifteenmile Creek Project currently has or has access to.

Facilities:

- Office Space 1600 ft^2
- Shop Space 1600 ft^2
- Off Site Storage 7,000 ft^2
- 1 20x20 container 400 ft^2

Of the above space, BPA pays 1/3. Federal Mitchell Act and the Hood River Project pays the remainder.

Equipment:

• 3 4X4 Vehicles(leased)	4X4 John Deere Tractor	Camera
• 2 Computers	2 ATV's	Flow Meter
• 1 Printer	10 Thermographs	Wood Post Driver
• Chain Saw	Typewriter	Power Auger

Other Equipment Available:

This equipment is available for use to the Fifteenmile Creek Project but, belongs to Federal Mitchell Act program.

• Cat 4X4 Backhoe	Welders	Lathe	Milling Machine
• Steam Cleaner	Pipe Bender	Table Saw	Drill Press
• Grinders	Power Hack Saw	Ironworker	
• 2 20X8 containers	Dump Truck	20' trailer	

h. Budget

Budget

The FY-2000 budget submitted for the Fifteenmile Creek Restoration Project that appears in section #5 of this proposal is $246,856. The Fifteenmile Creek Habitat Restoration budget is an ongoing operation and maintenance budget. The budget submitted for 1999 was $220,000. The reason for the increase in the budget for FY 2000 is an increase in the indirect rate from 22.9% to 35.5 %.

Personnel

The budgeted amount for personnel is $94,316 and represents 38% of the total Fifteenmile Creek habitat budget. This amount is necessary to insure that we are able to complete the operation, maintenance, and monitoring of completed habitat treatment measures.

Fringe benefits

The amount budgeted for fringe benefits is $36,896 and represents 15% of the total Fifteenmile Creek habitat budget. Overhead and personnel expenses are figured at 39% of that employees base salary.

Supplies, materials, non expendable property

The budgeted amount for this category is $50,300 and is 20 % of the Fifteenmile Creek habitat restoration budget. This covers office rent, vehicles, mileage and all fencing supplies and materials necessary to complete the operation and maintenance of this project.

Travel

The dollar amount allocated for travel is $1,053 and is less than 1% of the budgeted amount for the Fifteenmile Creek Restoration Project. This line item is for project related employee training and travel costs.

Indirect costs

The budgeted amount for this line item is $64,291 and represents 26 % of the Fifteenmile Creek budget. The indirect rate has increased from 22.9 % to 35.5 % this year. The indirect rate is 35.5 % of personal services and services and supplies.

Fifteenmile Creek Habitat Restoration Project
Proposed FY-2000
Operation and Maintenance Budget

Personal Services	Title	Months	Rate	Amount
Program Leader	Pem-D	1	3781	3,781
Project Leader	Supv. F&W Bio	2.5	3365	8,413
Asst. Project Leader	FWB-ll	11	2733	30,000
F&W Tech 2	FWT-ll	12	2061	24,732
F&W Tech 1	FWT-l	12	1645	19,740
Clerical	Off.Coord	4	1790	7,160
Other Personal Expenses		OPE (.39xPS)		36,617
		Total O & M, PS		130,505

Service and Supplies

	Unit	Quanity	Rate	Amount
Office rent	months	12	500	$6,000
Office Utilities	months	12	400	$4,800
Office Machines (Fax, Computers)	months	12	200	$2,400
Office Supplies	months	12	200	$2,400
Connunications (Phone & Radios)	months	12	267	$3,204
Vehicle	months	2.5	260	$650
Vehicle Mileage	miles	1500	0.13	$195
Vehicle	months	11	260	$2,849
Vehicle Mileage	miles	11000	0.13	$1,430
Vehicle	months	12	260	$3,108
Vehicle Mileage	miles	8000	0.13	$1,040
Vehicle	months	12	259	$3,108
Vehicle Mileage	miles	10000	0.13	$1,300
Fence Maintenance Material	miles	100	100	$10,000
Repairs of tools & equipment				$1,000
Mandatory Noxious Weed control				$1,000
Electric fence crossing repair materials (batteries, polywire, insulators)	crossings	35	25.00	$875
Safety Equipment				$300
Personnel Training				$350
Per diem				$528
		Total O & M, S&S		$46,535
Administrative. Overhead (.355 x PS and SS)				$62,849
Total Fifteenmile Creek Project O & M Budget				$239,889

Fifteenmile Creek Habitat Restoration Project

Proposed FY-2000
Monitoring Budget

Personal Services				
Position	Title	Months	Rate	Amount
Assistant Project Leader	FWB ll	1	2733	$2,733
	Other Personal Expenses	OPE (.39 x PS)		$1,066
		Total Monitoring PS		$3,799

Services and Supplies				
	Unit	Quantity	Rate	Amount
Vehicle	month	1	259	$259
Vehicle Mileage	miles	1500	0.13	$195
Photographic film & processing				$100
Thermograph supplies				$225
Personnel Training				$175
		Total Monitoring SS		$1,343
Administrative Overhead (.355 x PS and SS)				$1,825
Total Fifteenmile Creek Project Monitoring Budget				$6,967

Proposed FY-2000
Fifteenmile Creek Habitat Project Budget Summary

Operation and Maintenance Budget	$239,889
Monitoring Budget	$6,967
Fifteenmile Creek Habitat Restoration Request	**$246,856**

Section 9. Key personnel

Allen R. Dale, ODFW Program Manager, FTE 0.08

Education

1986 Colorado State University, Fort Collins, CO.
Degree: MS in Wildlife Biology

1977 Colorado State University, Fort Collins, CO.
Degree: BS in Wildlife Biology

Training

AFS Habitat Workshop, Bellevue, WA. 1991
State of Oregon DAS Core Curriculum for Managers and Supervisors.

USFS GAWS Aquatic Habitat Inventory.

Experience

1993 – Present, Oregon Department of Fish and Wildlife Assistant Regional Supervisor (Fisheries).

Duties

Administer the fisheries resources of the High Desert Region of ODFW. Programs include research, habitat, Fisheries, and Propagation. Administer Programs involving ~60 FTE's and ~$3.5 million dollar budget.

1983-1990 Denver Water Department, Environmental Planner.

Duties

Responsible for planning and implementation of habitat restoration projects for mitigation of impacts related to dam construction. Also oversaw inventory programs conducted jointly with Colorado Division of Wildlife to measure fish population abundance in impacted reaches of rivers affected by Denver Water District's operations.

Publications

Dale, A. R. and J. A. Bailey. 1982. Application of optimal foraging theory for bighorn sheep habitat analysis. Proc. 3rd Bienn. Symp. North Wild Sheep and Goat Council. Pp 254-264.

Chilcote, M., K. Kostow, H. Weeks, H. Schaller, and A. Dale. 1991. First Biennial Report on Status of Oregon's Wild Fish Populations. ODFW.

Ray Hartlerode, Project Leader, 0.21 FTE

Education

1979 – 1983 Oregon State University; Corvallis, Oregon
Degree: B.S. in Fisheries Science

Training

AFS Riparian Restoration Workshop
NMFS Fish Passage and Diversion Structures Training
State of Oregon DAS Core Curriculum Training for Managers and Supervisors
Northwest Fish Screening and Passage Workshops

Experience

1991-Present, Oregon Department of Fish & Wildlife; Project Leader on Fifteenmile, Trout, and Buckhollow Creek Habitat Restoration Projects. Project

Leader on N.E. Oregon Screens Trout Creek Passage Project, Project Leader for NMFS Mitchell Act Fifteenmile/Trout Creek Fish Screens Project.
Duties
Fiscal management of project budgets, supervision of project personnel to implement and maintain fish habitat projects, preparation of proposals, works statements, contracts, leases, and reports, coordination of habitat projects with other agencies and organizations performing conservation programs in the watershed, Identifies stream reaches with altered habitat conditions that lack necessary habitat types to sustain natural production of fish populations, determines appropriate fish habitat restoration/improvement actions, negotiates with government and private landowners for cooperation and permission to conduct habitat restoration projects, develops program direction in the form of standards and guides for all regional habitat programs; including, but not limited to, Bonneville Power Administration (BPA) National Marine Fisheries Service (NMFS) and state funded fish habitat and screening projects.

1987-1991 – Oregon Department of Fish & Wildlife. Assistant Project Leader, Trout Creek Habitat Restoration Project

Duties
Conducted fish habitat surveys, recommended habitat restoration treatments, developed habitat restoration construction contracts, inspected construction contracts, negotiated landowner riparian leases, wrote landowner riparian leases., performed maintenance on riparian improvements such as riparian fencing and instream habitat structures.

Steven L. Springston Assistant Project, 1.0 FTE

Education
HS diploma 1976
15 credit hours of post secondary education

Additional professional training, workshops and classes: contract preparation & administration, public works contracting (BOLI), bureau of labor & industries wage and hour certification, public purchasing (DAS), Haz-Mat training (ODFW), law enforcement (OSP) hazardous chemical (DEQ), aquatic inventory's (ODFW), stream habitat workshop (AFS), habitat requirements of fish (AFS), recognizing fish habitat deficiencies (AFS), fish screening (CBFWA), bio-engineering techniques (ODFW), writing classes (MCCC), computer classes (MCCC).

Experience
02/95-Present
Oregon Department of Fish & Wildlife
Assistant Project Leader 1.00 FTE

Assistant Project Leader on the Fifteenmile Creek Habitat Restoration Project (Project #86-79-01). Primary responsibilities include but are not limited to: development of riparian lease agreements, writing construction specifications and contracts, administering construction contracts, developing cooperative agreements with private landowners and other agencies, assisting Project Leader and other agency's with grant applications, writing annual, monthly, and special reports (as needed), purchasing all field supplies, conducting field tours and making presentations for schools and agency's, monitoring leased riparian habitat, collecting and summarizing stream temperature data, flow data, spawning ground data, providing task guidance for habitat technicians, directing volunteer work crews performing project maintenance.

02/88 to 02/95
Oregon Department of Fish & Wildlife
Fish Habitat Tech II 1.00 FTE

Fish Habitat Technician II
Fifteenmile Creek Habitat Restoration Project:

Duties
Project maintenance, fence line staking, establishment of photopoint locations, taking of photopoint pictures, staking of habitat structure locations, monitoring construction contracts, taking of flow measurements, macro-invertebrate sampling, assisting with spawning ground surveys, assisting with stream surveys, assisting with transect measurements, performing maintenance on juvenile fish trap, operateing juvenile fish trap, providing assistance to project leader as needed.

Section 10. Information/technology transfer

Information will be transferred through reports, memos, presentations, and newspaper articles about the Fifteenmile Creek Habitat Restoration Project. Information will also be

transferred through the Wasco County Soil and Water Conservation District, WCSWCD monthly newsletters, and meetings. WCSWCD is a sub contractor to ODFW on the Fifteenmile Creek Habitat Restoration Project and assisted ODFW with the making of a video about the Fifteenmile Creek Habitat Restoration Project. This video is a great tool in that it shows landowners the benefits of a healthy riparian area and what the project is about. WCSWCD will be conducting a streambank stabilization bioengineering workshop for landowners, contractors and other agencies in the near future. This workshop demonstrated to landowners, contractors, and agencies personnel bioengineering techniques used to stabilize eroding streambanks.

Congratulations!